

Serial No. 10/775.080  
April 22, 2005 Reply to  
March 22, 2005 Office Action

**Amendments to the Claims**

Please cancel claims 25-32. The following listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (Original) A plating system for bone fixation for mammalian bone structures, comprising:
  - I. (a) a first plate segment and a second plate segment, each of the segments adapted to be affixed onto a bone structure with another bone structure in an aligned spatial relationship;
  - II. (b) a coupler means (coupling segment) being securable to the first plate segment and the second plate segment, the coupler means being selectively adjustable to define the movement (compression and subsidence) of the bone structures in the aligned spatial relationship.
2. (Original) The plating system of Claim 1 wherein the coupler means is selectively adjustable to enable compression and subsidence of the bone structures in the aligned spatial relationship.
3. (Original) The plating system of Claim 1 wherein the plates are slidably engaged substantially in the aligned spatial relationship.
4. (Original) The plating system of Claim 1 wherein each of the plates has a projection portion and a receiving channel for complementary placement of the projection portion of one plate segment into the receiving channel of another plate segment.
5. (Original) The plating system of Claim 1 wherein the first plate segment has at least one projection portion and the second plate segment has at least one receiving channel to receive the projection portion of first plate segment.

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6. (Original) The plating system of Claim 5 wherein the projection portion has a generally elongated body with cross-section shape selected from the shapes of a triangle, truncated triangle, rectangle, modified rectangle, and a trapezoid.
7. (Original) The plating system of Claim 1 wherein the coupler means is selectively engaged with first plate segment and the second plate segment to secure one or both the plate segments to define the movement of the bone structures in the aligned spatial relationship.
8. (Original) The plating system of Claim 1 wherein the coupler means comprises an elongated element and a plurality of fasteners for selectively engaging the plating segments.
9. (Original) The plating system of Claim 8 wherein the coupler means has an opening to receive at least one fastener passing therethrough to engage one or both of the plate segments.
10. (Original) The plating system of Claim 1 wherein the coupler means comprises stepped channel openings formed on the first plate segment and the second plate segment and arranged in a substantially overlapping relationship and defining an internal travel pathway between the first and the second plate segments; a bolt element having a threaded shank portion passing through the stepped channel openings with locking mechanisms at the ends of the shank to secure the plate segments; and a frictional element fitted in the internal travel pathway and engageable by the threaded shank portion to couple the bolt element to either the first plate segment or the second plate segment.
11. (Original) The plating system of Claim 10 wherein the frictional element has threads cooperating with and carried by the threaded shank portion of the bolt element to effect the selective engagement of the first plate segment or the second plate segment.
12. (Original) The plating system of Claim 10 wherein the bolt element and the of the openings of the stepped channels are of substantially similar width.

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13. (Original) The plating system of Claim 10 wherein at least a portion of the frictional element and the internal travel pathway are of substantially similar width.
14. (Original) The plating system of Claim 10 wherein the channel of the first plate segment has an enlarged opening defining a keyhole shape adapted to accept the locking mechanism including of the bolt element passing therethrough between a first position outside the channel opening of the first plate segment to affix the spatial relationship of the plate segments in compression and a second position of the retainer within the internal travel pathway and enabling the relative movement of the first plate segment and the second plate segment for bone subsidence.
15. (Original) The plating system of Claim 1 wherein the plate segments each has at least one opening to accommodate a bone screw for securing the plate segments onto the bone structures.
16. (Original) The plating system of Claim 1 wherein the plate segments each has at least one opening to receive a portion of a distraction screw implanted at a predetermined landmark of the bone structure.
17. (Original) The plating system of Claim 1 wherein the mammalian bone structure is a cancellous bone or cortical bone.
18. (Original) The plating system of Claim 1, wherein at least a portion of the plating segments is constructed of a biologically adaptable or biologically compatible material.
19. (Original) The plating system of Claim 18 wherein the biologically adaptable or biologically compatible material is selected from the group of materials consisting of stainless steel, titanium, combination metallic alloys, plastics, ceramics, osteo-conductive materials, and bio-active materials.

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20. (Original) The plating system of Claim 19 wherein the osteo-conductive material is a demineralized bone matrix, a hydroxyapatite, a transforming growth factor, platelet-derived growth factor or a bone-morphogenic protein.
21. (Original) The plating system of Claim 1, wherein each of the plate segments has curved surfaces to conform to the surface contours of the bone structures.
22. (Original) The plating system of Claim 1 wherein each of the plate further comprises an end coupler adaptable to be engaged by a distraction screw.
23. (Original) The plating system of Claim 22 wherein the end coupler includes means for engagement with the distraction screw comprising interfitting threads or complementary spines.
24. (Original) A modular plating system for bone fixation for mammalian bone structures comprising:
  - (a) a plurality of plate segments, each of the segments adapted to be affixed onto a bone structure with another bone structure in an aligned spatial relationship; and
  - (b) a coupler means (coupling segment) being securable to at least two of the plate segments and selectively adjustable to define the movement (compression and subsidence) of the bone structures in the aligned spatial relationship.

25-32. (Cancelled)